Table MM.1 Adult mortality rates

Direct estimates of female and male mortality rates for the seven years preceding the survey, by five-year age groups, [country, year]

Age	Deaths	Exposure years	Mortality rates[1]
FEMALE			
15-19	38	26,991	1642
20-24	52	26,051	1999
25-29	51	20,382	2749
30-34	68	17,243	3797
35-39	28	14,911	1785
40-44	33	10,413	3216
45-49	18	5,913	3706
15-49	288	121,924	2735[a]
MALE			
15-19	47	28,501	1365
20-24	23	27,180	0885
25-29	46	21,452	2912
30-34	30	17,731	1467
35-39	32	15,002	2211
40-44	36	10,539	3539
45-49	24	6,188	3895
15-49	237	126,602	2502[a]

[1] Expressed per 1,000 population
[a] Age-adjusted rate

Confidence limits: The confidence limits should be included in a table in the sampling error appendix (see below). Reference the CIs in discussing the 5-year rates. Precision for the 5-year rates is low, and the CIs for many of the rates may overlap, indicating there is likely no statistically significant difference between them.

Table MM.2 Adult mortality probabilities
The probability of dying between the ages of 15 and 50 for women and men for the seven years preceding the survey, [country, year]

Survey	Women $_{35}q_{15}$[1]	Men $_{35}q_{15}$[1]
[yyyy country]DHS	159	209
[prior yyyy country]DHS	159	209

[1] The probability of dying between exact ages 15 and 50, expressed per 1,000 person-years of exposure

Row 1: The probability of dying between exact ages of 15 and 50 for women (based on sisters reported by female respondents in the Sibling Survival Module) and for men (based on brothers reported by female respondents in the Sibling Survival Module).

Row 2: This row will be shown only when a prior country survey included the Sibling Survival Module. It shows the probability of dying between exact ages of 15 and 50 for women (based on sisters reported by female respondents in the Sibling Survival Module from the PRIOR survey) and for men (based on brothers reported by female respondents in the Sibling Survival Module from the PRIOR survey).

Confidence limits: The confidence limits for $_{35}q_{15}$ for women and men for the current survey (and the prior survey if applicable) should be included in a table in the sampling error appendix. When comparing rates for women and men or across surveys, refer to the confidence intervals to see if they overlap.

Table MM.3 Maternal mortality

Direct estimates of maternal mortality rates for the seven years preceding the survey, by five-year age groups, [country, year]

Age	Percentage of female deaths that are maternal	Maternal deaths	Exposure years	Maternal mortality rate[1]
15-19	21.1	8	26,996	0.29
20-24	42.3	22	26,051	0.86
25-29	47.1	24	20,387	1.20
30-34	47.1	32	17,247	1.84
35-39	42.9	12	14,917	0.84
40-44	45.5	15	10,412	1.44
45-49	33.3	6	5,917	1.03
Total 15-49	41.7	120	121,927	0.96[a]

General fertility rate (GFR)[2]	172[a]
Maternal mortality ratio (MMR)[3]	557 CI: (X, Y)
Lifetime risk of maternal death[4]	0.034

CI: Confidence interval

[1] Expressed per 1,000 woman-years of exposure

[2] Expressed per 1,000 women age 15-49

[3] Expressed per 100,000 live births; calculated as the age-adjusted maternal mortality rate times 100 divided by the age-adjusted general fertility rate

[4] Calculated as $1-(1-MMR)^{TFR}$ where TFR represents the total fertility rate for the seven years preceding the survey

[a] Age-adjusted rate

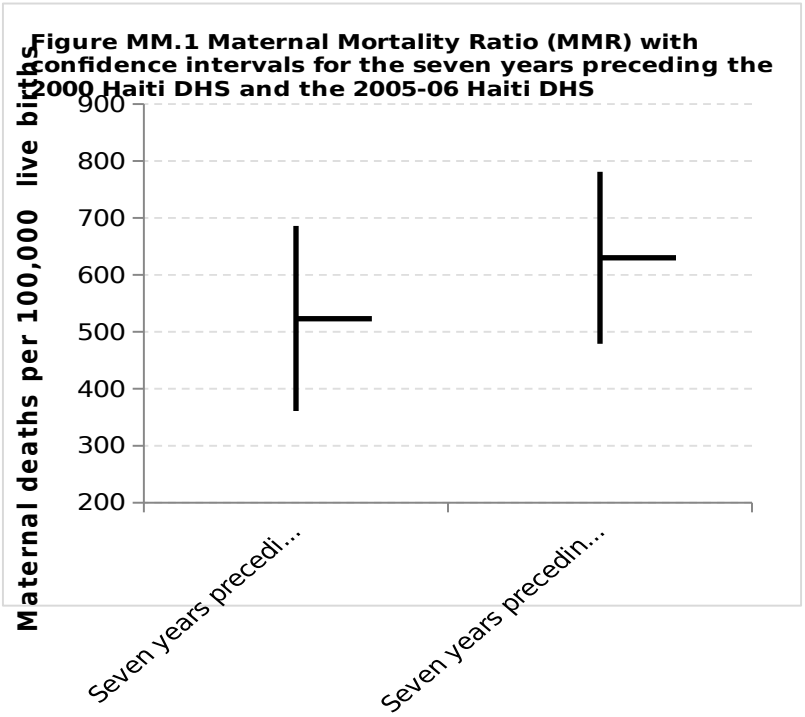
The percentage of female deaths that are maternal equals the number of maternal deaths in column 2 of MM.3 divided by the number of adult female deaths in column 1 of MM.1, expressed as a percentage.

The lifetime risk of maternal death is calculated from the MMR using the formula given in the footnote. It is interpreted as the risk of a woman with average fertility dying during pregnancy, childbirth or in the 2 months following a birth throughout the course of her reproductive life. It is expressed as a proportion in the table. For example, a lifetime risk of 0.034 indicates that out of every 100 women, 3.4 (or 3 percent) will have a maternal death. It may be useful to include the percentage and/or the inverse of the proportion in the text for ease of interpretation. For example, a proportion of 0.034 is equivalent to 1 in 29 women.

Confidence limits: The confidence limits for the 5-year and total maternal mortality rates, and the maternal mortality ratio (MMR) should be included in a table in the sampling error appendix. Note that the confidence intervals for the 5-year maternal mortality rates are likely to be especially wide relative to the rate itself. Confidence intervals for many of the 5-year rates are likely to overlap, especially in the older age groups. If you choose to discuss the 5-year maternal mortality rates in the text, refer to the confidence intervals when deciding how to interpret them.

For countries with measurements of the MMR from previous DHS surveys, the report should include Figure MM.1 (below), and the text must include a discussion of whether or not the observed difference can be interpreted as a change in the level of maternal mortality.

The reference periods before each estimate should be the same length. The approximate calendar years included in the reference period should be noted in the figure. If a previous survey included the maternal mortality chapter, but no confidence limits were published, the confidence limits for the previous survey must be calculated and included.



There are three possible outcomes when comparing confidence intervals:

1. **The confidence intervals do not overlap.** In this case, the difference between the estimates is statistically significant, i.e., that the maternal mortality ratio has increased/decreased.

2. **The confidence intervals overlap to the extent that either confidence interval encompasses the point estimate of the other survey.** In this case, the difference between the estimates cannot be statistically significant. We conclude that the survey has not detected a change. Note that this is not the same as saying that the survey concludes there has been no change. There could be a change that was too small to be detected by the survey. Even with their large sample sizes, DHS surveys are able to detect only large changes in the maternal mortality ratio.

3. **The confidence intervals overlap, but neither confidence interval includes the point estimate of the other survey (only the tails overlap).** In this case, it is not possible to determine whether or not the difference between the two estimates is statistically significant based on the confidence intervals. The sampling statistician for the survey will need to perform a test to determine whether the difference is statistically significant. The sampling statistician will give you the confidence interval for the difference between the maternal mortality ratios of the two surveys. The difference between the ratios is the simple arithmetic difference between the point estimates of the two surveys. In the example above, the difference would be 107 maternal deaths per 100,000 live births. If the confidence interval for the difference does not include zero, then the difference between the two surveys is statistically significant. If the confidence interval for the difference includes zero, then the difference between the two surveys is not statistically significant. Include the difference and the confidence level for the difference in a footnote in the chapter, as recommended in options 3a and 3b below.

Most of the time, two consecutive DHS surveys will have independently selected samples. In the event that this is not true, for example if a second survey purposively included clusters from the prior survey or if both surveys were selected from the same master list of clusters (if the master list includes a sample of all of the clusters in the country), consult with your sampling statistician because different formulas must be used to test whether or not a difference is statistically significant when samples are not independent.

The following section includes example text to include in the final report chapter for all of the possible outcomes described above.

1. The confidence intervals do not overlap.

“As shown in Figure MM.1, there is no overlap between the confidence intervals surrounding the estimates of the maternal mortality ratio (MMR) for the [yyyy country] DHS and the [yyyy country] DHS. The difference between the yyyy and yyyy estimates of the MMR is statistically significant and not likely to be due to sampling error. Therefore, it can be concluded that the MMR has [increased/decreased] between the yyyy and yyyy surveys.”

2. The confidence interval from either survey encompasses the point estimate from the other survey.

“As shown in Figure MM.1, the confidence intervals for the maternal mortality ratio (MMR) for the [yyyy country] DHS and the [yyyy country] DHS overlap. The confidence interval for the [yyyy country] DHS spans the point estimate of the MMR in the [yyyy country] DHS [and vice versa]. The difference between the yyyy and yyyy estimates of the MMR is not statistically significant. Any change that may have occurred between the two surveys was not large enough to be significant with the sample sizes of the surveys.”

3a. The tails of the confidence intervals overlap, and the statistical test concluded the difference is statistically significant.

“As shown in Figure MM.1, the confidence intervals for the maternal mortality ratio (MMR) for the [yyyy country] DHS and the [yyyy country] DHS overlap. Because it is still possible for a difference to be statistically significant even if the confidence intervals overlap, a statistical test of significance was conducted. The test concluded that the difference between the yyyy and yyyy estimates of the MMR is statistically significant and not likely to be due to sampling error[1]. Therefore, it can be concluded that the MMR has [increased/decreased] between the yyyy and yyyy surveys.”

Footnote for 3a:

“[1] The difference in the MMR between the two surveys is X deaths per 100,000 live births. The confidence interval for this difference is (Y,Z). The confidence interval does not include zero, indicating that the difference between the two estimates is statistically significant.”

3b. The tails of the confidence intervals overlap, and the statistical test concluded that the difference is <u>not</u> statistically significant.

“As shown in Figure MM.1, the confidence intervals for the maternal mortality ratio (MMR) for the [yyyy country] DHS and the [yyyy country] DHS overlap. Because it is still possible for a difference to be statistically significant even if the confidence intervals overlap, a statistical test of significance was conducted. The test concluded that the difference between the estimates of the MMR for the yyyy and yyyy surveys is not statistically significant. Any change that may have occurred between the two surveys was not large enough to be statistically significant with the sample sizes of the surveys.”

Footnote for 3b:

“[1] The difference in the MMR between the two surveys is X deaths per 100,000 live births. The confidence interval for this difference is (Y,Z). The confidence interval includes zero, indicating that the difference between the two estimates is not statistically significant.”

This table will be produced by the sampling statistician, and will be placed at the end of the sampling error appendix after the regional tables.

Table B.? Sampling errors for adult and maternal mortality rates, [country, year]

			Number of cases				Confidence limits	
Variable	Value R	Standard Error SE	Un-weighted N-UNWE	Weighted N-WEIG	Design Effect DEFT	Relative Error SE/R	Lower R-2SE	Upper R+2SE
			WOMEN					
Adult mortality rates								
15-19								
20-24								
25-29								
30-34								
35-39								
40-44								
45-49								
15-49 (age-adjusted)								
Adult mortality probabilities								
$_{35}q_{15}$ [survey year]								
$_{35}q_{15}$ [prior survey year]								
Maternal mortality rates								
15-19								
20-24								
25-29								
30-34								
35-39								
40-44								
45-49								
15-49 (age-adjusted)								
Maternal mortality ratio (MMR) [year]								
Maternal mortality ratio (MMR) [prior]								
			MEN					
Adult mortality rates								
15-19								
20-24								
25-29								
30-34								
35-39								
40-44								
45-49								
15-49 (age-adjusted)								
Adult mortality probabilities								
$_{35}q_{15}$ [survey year]								
$_{35}q_{15}$ [prior survey year]								

C.8 Completeness of Information on Siblings

Completeness of data on survival status of sisters and brothers reported by interviewed women, age of living siblings and age at death (AD) and years since death (YSD) of dead siblings, (unweighted) [country, year]

	Sisters		Brothers		All siblings	
	Number	Percent	Number	Percent	Number	Percent
All siblings						
Living						
Dead						
Survival status unknown						
Living siblings						
Age reported						
Age missing						
Dead siblings						
AD and YSD reported						
Missing only AD						
Missing only YSD						
Missing AD and YSD						

Working table. Completeness of information for dead sisters

Percentage of sisters who died at ages 15-49 with information missing on whether or not the death was maternal (unweighted), [country, year]

	Percent
Deaths that could not be classified as maternal or non-maternal	
Total number of sisters who died at ages 15-49	

Note: Restricted to sisters who died during the seven years preceding the survey.

C.9 Sibship size and sex ratio of siblings

Mean sibship size and sex ratio of siblings at birth, [country, year]

Age of respondents	Mean sibship size[1]	Sex ratio of siblings at birth[2]
15-19		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
Total		

[1] Includes the respondent
[2] Excludes the respondent